C 29767

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Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION
OCTOBER 2012

AI 09 L-17—POWER PLANT INSTRUMENTATION AND CONTROL

(2009 admissions)

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all *questions.*

Short answer questions.

1. What are the basic building blocks of a thermal power plant ?
2. What are the precautions required in a nuclear power plant ?
3. Define power factor.
4. List out the advantages of superheaters.
5. What is SCADA ?

(5 × 2 = 10 marks)

Part B

Answer any four *questions.*

1. State the importance of instrumentation in power generation.
2. Explain in detail about turbine generators.
3. Write short notes on pollution monitoring instruments.
4. Explain in detail about two element drum level control.
5. What are interlocks ?
6. Discuss the measurement of monitoring speed in a turbine.

(4 × 5 = 20 marks)

Part C

Answer one question from each module.

1. (a) Explain in detail about various types of boilers.

Or

(b) Explain in detail about non-conventional methods of power generation.

2. (a) Explain the working principle of a dissolved oxygen analyzer.

Or

(b) Explain in detail about the measurement of frequency in a power plant.

Turn over

3. (a) Write short notes on combustion control.

Or

(b) Explain the role of distributed control system in power plants.

4. (a) Explain the PLC based automation strategy of a thermal power plant.

Or

(b) Explain in detail about Hydro-electric power generation.

(4 × 10 = 40 marks)